

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (currently amended) An antenna device for a portable radio communication device operable in at least a first and a second frequency band, the antenna device comprising:

a first electrically conductive radiating element ~~{10; 110; 210; 310; 410; 510}~~ having a feeding portion {12} connected to a feed device ~~{RF}~~ of the radio communication device;

a second electrically conductive radiating element ~~{20; 120; 220; 320; 420; 520;}~~ having a grounding portion connectable to ground;

a controllable switch ~~{30}~~ arranged between the first and second radiating elements for selectively interconnecting and disconnecting the radiating elements, the state of the switch being controlled by means of a control voltage input ~~(V_{switch})~~;

a first filter ~~{40; 340; 440; 540}~~ arranged between the feeding portion {12} and the control voltage input ~~(V_{switch})~~, wherein the first filter is arranged to block radio frequency signals[~~,~~];

characterized by

a grounding portion {14} of the first radiating element, ~~and~~;

a high pass filter {50} arranged between the grounding portion {14} of the first radiating element and ground[~~,~~]; and

a band-stop filter connected to the grounding portion of the second radiating element and being connectable to ground, the band-stop filter having a stop band at the lower of the first and second frequency bands;

wherein the first and second radiating elements are generally planar and arranged at a predetermined distance above a ground plane.

2. (currently amended) The antenna device according to claim 1, wherein the first filter ~~(40; 340; 440; 540;)~~ is a low pass filter.

3. (currently amended) The antenna device according to claim 1, wherein the switch ~~(30)~~ comprises a PIN diode.

4. (cancelled).

5. (cancelled).

6. (cancelled).

7. (currently amended) The antenna device according to claim 1, wherein the first radiating element ~~(310; 510)~~ is configured ~~has a configuration that provides~~ for more than one resonance frequency.

8. (currently amended) The antenna device according to claim 1, wherein the feeding portion ~~(12)~~ of the first radiating element ~~(10)~~ and the grounding portion ~~(14)~~ connected to the ~~DC blocking arrangement (50)~~ high pass filter are arranged on a ~~the~~ same side of the first radiating element ~~(10)~~ and preferably on a short side of the first radiating element (10).

9. (currently amended) The antenna device according to claim 1, wherein at least one of the first and second radiating elements ~~(110, 120)~~ comprises a

protruding portion ~~(110a, 110b, 120a, 120b)~~, and wherein the switch ~~(30)~~ is connected to the protruding portion.

10. (currently amended) The antenna device according to claim 1, comprising a generally planar printed circuit board ~~(70)~~, wherein the first and second radiating elements ~~(10, 20)~~ and the switch ~~(30)~~ are arranged generally parallel to and spaced apart from the printed circuit board.

11. (currently amended) The antenna device according to claim 1, wherein the antenna device has a volume less than 3 cm^3 ~~and preferably less than 2 cm^3~~ .

12. (previously presented) The antenna device according to claim 1, wherein the antenna device is a PIFA.

13. (previously presented) The antenna device according to claim 1, wherein the position of the portable radio communication device is used to control the switch.

14. (currently amended) The antenna device according to claim 1, wherein the impedance of the first filter ~~(40)~~ is purely resistive.

15. (cancelled)

16. (currently amended) A portable radio communication device, comprising a generally planar printed circuit board, the ~~and an~~ antenna device of claim 1 connected to a feed device ~~(RF)~~ with electronic circuits provided for transmitting and/or receiving RF signals, and a ground device, ~~wherein the antenna device comprises:~~

~~a first electrically conductive radiating element (10; 110; 210; 310; 410; 510) having a feeding portion (12) connected to the feed device (RF);~~

~~a second electrically conductive radiating element (20; 120; 220; 320; 420; 520) having a grounding portion connected to the ground device;~~

~~a controllable switch (30) arranged between the first and second radiating elements for selectively interconnecting and disconnecting the radiating elements, the state of the switch being controlled by a means of a control voltage input (V_{switch});~~

~~a first filter (40; 340; 440; 540) arranged between the feeding portion (12) and the control voltage input (V_{switch}), wherein the first filter is arranged to block radio frequency signals[.];~~

characterized by

~~a grounding portion (14) of the first radiating element, and~~

~~a high pass filter (50) arranged between the grounding portion (14) of the first radiating element and ground,~~

~~wherein the first and second radiating element are generally planar and arranged at a predetermined distance above a ground plane.~~

17. (new) The antenna device according to claim 1, wherein the first filter consists of two inductors and one capacitor.

18. (new) The antenna device according to claim 1, wherein the antenna device is configured to 50 Ohms.

19. (new) The antenna device according to claim 1, wherein the antenna device has a height of about 4 millimeters.

20. (new) The antenna device according to claim 1, wherein the antenna device has a volume of about 2 cm³.

21. (new) The antenna device according to claim 1, wherein the first and second radiating elements are configured so as to cover the 900 and the 1800/1900 Megahertz bands.

22. (new) The antenna device according to claim 1, wherein the first radiating elements are spaced apart by at least 3 millimeters.

23. (new) The antenna device according to claim 1, wherein:
when there is a sufficient voltage drop across the switch of at least 1 Volt, the switch is configured to electrically interconnect the first and second radiating elements to be operable with a resonance frequency corresponding to the lower of the first and second frequency bands; and

when there is an insufficient voltage drop across the switch of less than 1 Volt, the switch is configured to disconnect the first and second radiating elements such that the first radiating element is only operable with a resonance frequency corresponding to the higher of the first and second frequency bands.

24. (new) The antenna device according to claim 1, wherein the band-stop filter is operable for blocking signals at the lower of the first and second frequency bands, while short-circuiting to ground signals at the higher of the first and second frequency bands.